IN THE CLAIMS:

Claim 1 (Currently Amended): A radiation detection device comprising:

a light-receiving device array [in which] comprising a plurality of light-receiving devices [are] one- or two-dimensionally arranged on a substrate;

a scintillator layer having a top surface and side surfaces, deposited on said light-receiving devices and [provided with] comprising columnar crystals each having at least one side surface facing a side surface of another of the columnar crystals across a gap formed between the side surfaces of the columnar crystals, said scintillator layer being positioned above said substrate with a portion of said substrate surrounding a periphery of said scintillator layer; and

an organic film formed [over] on the top and side surfaces of said scintillator layer and on the portion of said substrate [surface around] surrounding the periphery of said scintillator layer and [intruding] extending at least partially into the gaps [among the top part of said columnar crystals to cover] formed between the side surfaces of the columnar crystals of said scintillator layer.

Claim 2 (Currently Amended): A radiation detection device according to claim 1, wherein said organic film is fixed to the portion of said substrate [around] surrounding the periphery of said scintillator layer.

Claim 3 (New): A radiation detection device according to claim 1, wherein said organic film extends into the gaps formed between the side surfaces of the columnar crystals of said scintillator layer all the way down and into contact with said substrate.

Claim 4 (New): A radiation detection device according to claim 1, wherein said organic film is continuously formed on the top and side surfaces of said scintillator layer and on the portion of said substrate surrounding the periphery of said scintillator layer and within the gaps formed between the side surfaces of the columnar crystals of said scintillator layer.

Claim 5 (New): A radiation detection device according to claim 1, wherein said organic film is integrally formed on the top and side surfaces of said scintillator layer and on the portion of said substrate surrounding the periphery of said scintillator layer and within the gaps formed between the side surfaces of the columnar crystals of said scintillator layer.

a2 Claim 6 (New): A radiation detection device according to claim 1, wherein at least a portion of said organic film is formed over a passivation layer and together said organic film and said passivation layer seal said scintillator layer.

Claim 7 (New): A radiation detection device according to claim 6, wherein at least a portion of said passivation layer is formed on an image sensor located at the periphery of said scintillator layer.

Claim 8 (New): A radiation detection device according to claim 1, wherein a portion of said substrate extends out from below said scintillator layer for a substantial distance so as to surround the periphery of said scintillator layer, and a portion of said organic film extends away from the side surfaces of said scintillator layer for a substantial distance above the portion of the substrate extending out from below said scintillator layer, so that an edge portion of said organic film where said organic film terminates is located a substantial distance away from said scintillator layer to thereby protect said scintillator layer from external moisture.

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Claim 9 (New): A radiation detection device according to claim 8, wherein the height of the portion of the organic film formed on the top surface of said scintillator layer is greater than the height of the portion of the organic film extending away from the side surfaces of the scintillator layer.

Claim 10 (New): A radiation detection device according to claim 8, wherein the height of the top surface of said scintillator layer is greater than the height of the portion of the organic film extending away from the side surfaces of said scintillator layer.

Claim 11 (New): A radiation detection device according to claim 8, further comprising a coating resin formed on a top surface and a side surface of the edge portion of said organic film and on the portion of said substrate surrounding the periphery of said scintillator layer.

Claim 12 (New): A radiation detection device according to claim 1, wherein said columnar crystals decrease in height in the direction of said side surfaces of said scintillator layer.

Claim 13 (New): A radiation detection device according to claim 12, wherein said organic film decreases in height along with the decrease in height of said columnar crystals in the direction of said side surfaces of said scintillator layer.

Claim 14 (New): A radiation detection device according to claim 1, further comprising a coating resin formed on a top surface and a side surface of an edge portion of said organic film where said organic film terminates and on the portion of said substrate surrounding the periphery of said scintillator layer.

Claim 15 (New): A radiation detection device according to claim 14, wherein said organic film has at least two edge portions where said organic film terminates, and said coating resin is formed on top and side surfaces of said edge portions of said organic film and on the portion of said substrate surrounding the periphery of said scintillator layer.

Claim 16 (New): A radiation detection device according to claim 15, further comprising a bonding pad array portion positioned on said substrate within an opening formed in said coating resin.

Claim 17 (New): A radiation detection device comprising:

a light-receiving device array comprising a plurality of light-receiving devices one- or two-dimensionally arranged on a substrate;

a scintillator layer having a top surface and side surfaces, deposited on said light-receiving devices and comprising columnar crystals each having at least one side surface facing a side surface of another of the columnar crystals across a gap formed between the side surfaces of the columnar crystals, said scintillator layer being positioned above said substrate with a portion of said substrate surrounding at least a portion of a periphery of said scintillator layer; and

an organic film formed on the top and side surfaces of said scintillator layer and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer and extending at least partially into the gaps formed between the side surfaces of the columnar crystals of said scintillator layer.

Claim 18 (New): A radiation detection device according to claim 17, wherein said organic film is fixed to the portion of said substrate surrounding at least a portion of the

periphery of said scintillator layer.

Claim 19 (New): A radiation detection device according to claim 17, wherein said organic film extends into the gaps formed between the side surfaces of the columnar crystals of said scintillator layer all the way down and into contact with said substrate.

Claim 20 (New): A radiation detection device according to claim 17, wherein said organic film is continuously formed on the top and side surfaces of said scintillator layer and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer and within the gaps formed between the side surfaces of the columnar crystals of said scintillator layer.

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Claim 21 (New): A radiation detection device according to claim 17, wherein said organic film is integrally formed on the top and side surfaces of said scintillator layer and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer and within the gaps formed between the side surfaces of the columnar crystals of said scintillator layer.

Claim 22 (New): A radiation detection device according to claim 17, wherein at least a portion of said organic film is formed over a passivation layer and together said organic film and said passivation layer seal said scintillator layer.

Claim 23 (New): A radiation detection device according to claim 17, further comprising a passivation layer, said scintillator being formed on said passivation layer.

Claim 24 (New): A radiation detection device according to claim 17, wherein a portion of said substrate extends out from below said scintillator layer for a substantial distance so as to

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surround at least a portion of the periphery of said scintillator layer, and a portion of said organic film extends away from the side surfaces of said scintillator layer for a substantial distance above the portion of the substrate extending out from below said scintillator layer, so that an edge portion of said organic film where said organic film terminates is located a substantial distance away from said scintillator layer to thereby protect said scintillator layer from external moisture.

Claim 25 (New): A radiation detection device according to claim 24, wherein the height of the portion of the organic film formed on the top surface of said scintillator layer is greater than the height of the portion of the organic film extending away from the side surfaces of the scintillator layer.

Claim 26 (New): A radiation detection device according to claim 24, wherein the height of the top surface of said scintillator layer is greater than the height of the portion of the organic film extending away from the side surfaces of said scintillator layer.

Claim 27 (New): A radiation detection device according to claim 24, further comprising a coating resin formed on a top surface and a side surface of the edge portion of said organic film and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer.

Claim 28 (New): A radiation detection device according to claim 17, wherein said columnar crystals decrease in height in the direction of said side surfaces of said scintillator layer.

Claim 29. (New): A radiation detection device according to claim 28, wherein said organic film decreases in height along with the decrease in height of said columnar crystals in the direction of said side surfaces of said scintillator layer.

Claim 30 (New): A radiation detection device according to claim 17, further comprising a coating resin formed on a top surface and a side surface of an edge portion of said organic film where said organic film terminates and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer.

a2 Claim 31 (New): A radiation detection device according to claim 30, wherein said organic film has at least two edge portions where said organic film terminates, and said coating resin is formed on top and side surfaces of said edge portions of said organic film and on the portion of said substrate surrounding at least a portion of the periphery of said scintillator layer.

Claim 32 (New): A radiation detection device according to claim 31, further comprising a bonding pad array portion positioned on said substrate within an opening formed in said coating resin.

Claim 33 (New): A radiation detection device according to claim 17, wherein said organic film covers all surfaces of the radiation detection device, including a back surface of an image sensor, except for bonding pad areas of the device.

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